

What is claimed is:

1. A driving method of an AC type plasma display panel in which first display electrodes and second display electrodes are arranged so as to form surface discharge gaps for rows of a matrix display, and the position relationship between the first and the second display electrodes forming a surface discharge gap in the row arrangement direction is opposite between neighboring two rows, and terminals for supplying electricity to the first and the second display electrodes are divided into both sides of a display screen, the method comprising the steps of:

setting plural electrode unit pairs about the first display electrodes by making a unit of each of electrode arrays including the first display electrode neighboring only the second display electrode and the plural first display electrodes arranged without including a surface discharge gap and by dividing the first display electrodes by two units;

setting plural electrode unit pairs about the second display electrodes by making a unit of each of electrode arrays including the second display electrode neighboring only the first display electrode and the plural second display electrodes arranged without including a surface discharge gap and by dividing the second display electrodes by two units;

generating a display discharge by changing potentials of the first and the second display electrodes so that a potential change has a complementary

relationship between the first display electrode units as well as between the second display electrode units of the electrode unit pair, and that a sustaining voltage is applied to the surface discharge gap at the ratio of one row per k ($k \geq 2$) rows, and that the surface discharge gaps to which the sustaining voltage is applied are changed sequentially.

2. A driving method of an AC type plasma display panel in which first display electrodes and second display electrodes are arranged so as to form surface discharge gaps for rows of a matrix display, and the position relationship between the first and the second display electrodes forming a surface discharge gap in the row arrangement direction is opposite between neighboring two rows, and terminals for supplying electricity to the first and the second display electrodes are divided into both sides of a display screen, the method comprising the steps of:

dividing the first display electrodes into k ($k \geq 2$) groups by making a unit of each of electrode arrays including the first display electrode neighboring only the second display electrode and the plural first display electrodes arranged without including a surface discharge gap and by dividing the first display electrodes in the arrangement order by one unit; and

generating a display discharge by applying a rectangular voltage pulse train having a constant period to the first display electrodes sequentially by one group while shifting the rectangular voltage pulse train by the time corresponding to a pulse width multiplied by $2/k$, and

by applying another rectangular voltage pulse train similar to the rectangular voltage pulse train to the second display electrodes so that the shift between neighboring first display electrodes becomes the time corresponding to a pulse width multiplied by $1/k$.

3. A driving method of an AC type plasma display panel in which first display electrodes and second display electrodes are arranged so as to form surface discharge gaps for rows of a matrix display and so that neighboring two rows share one electrode for display, and terminals for supplying electricity to the first and the second display electrodes are divided into both sides of a display screen, the method comprising the steps of:

setting plural electrode pairs about the first display electrodes by dividing the first display electrodes by two;

setting plural electrode pairs about the second display electrodes by dividing the second display electrodes by two; and

generating a display discharge by changing potentials of the first and the second display electrodes so that a potential change has a complementary relationship between the first display electrodes as well as between the second display electrodes, and that a sustaining voltage is applied across the display electrodes at the ratio of one row per k ($k \geq 2$) rows, and that the interelectrodes to which the sustaining voltage is applied are changed sequentially.

4. A driving method of an AC type plasma display panel in which first display electrodes and second display

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electrodes are arranged so as to form surface discharge gaps for rows of a matrix display and so that neighboring two rows share one electrode for display, and terminals for supplying electricity to the first and the second display electrodes are divided into both sides of a display screen, the method comprising the steps of:

dividing the first display electrodes into k ($k \geq 2$) groups by dividing the first display electrodes in the arrangement order one by one; and

generating a display discharge by applying a rectangular voltage pulse train having a constant period to the first display electrodes sequentially by one group while shifting the rectangular voltage pulse train by the time corresponding to a pulse width multiplied by $2/k$, and by applying another rectangular voltage pulse train similar to the rectangular voltage pulse train to the second display electrodes so that the shift between neighboring first display electrodes becomes the time corresponding to a pulse width multiplied by $1/k$.

5. The driving method according to claim 4, wherein a duty ratio of the rectangular voltage pulse train is 50%.

6. The driving method according to claim 4, further comprising the step of applying a sustaining voltage pulse having a larger pulse width than that of the rectangular voltage pulse train to the first display electrodes and the second display electrodes prior to the application of the rectangular voltage pulse train.

7. A driving method of an AC type plasma display panel in which first display electrodes and second display electrodes are arranged so as to form surface discharge

gaps for rows of a matrix display and so that two first display electrodes and two second display electrodes except both ends of the display electrode arrangement are arranged alternately, and terminals for supplying
5 electricity to the first and the second display electrodes are divided into both sides of a display screen, the method comprising the steps of:

setting plural electrode unit pairs about the first display electrodes by dividing the first display
10 electrodes by a unit of neighboring two first display electrodes;

setting plural electrode unit pairs about the second display electrodes by dividing the second display electrodes in the same way;

15 dividing the first display electrodes into k ($k \geq 2$) groups by dividing the first display electrodes corresponding to the plural electrode unit pairs in the arrangement order by one unit;

applying a rectangular voltage pulse train having a
20 constant period to the first display electrodes sequentially by one group while shifting the rectangular voltage pulse train by the time corresponding to a pulse width multiplied by $2/k$ so that the potential changes have a complementary relationship between the first display
25 electrode units of the electrode unit pair; and

generating a display discharge by applying another rectangular voltage pulse train similar to the rectangular voltage pulse train to the second display electrodes so that potential changes have a complementary relationship
30 between the second display electrode units of the

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electrode unit pair and that the shift between neighboring first display electrodes becomes the time corresponding to a pulse width multiplied by $1/k$.

8. The driving method according to claim 7, wherein
5 a duty ratio of the rectangular voltage pulse train is 50%.

9. The driving method according to claim 7, further comprising the step of applying a sustaining voltage pulse having a larger pulse width than that of the rectangular voltage pulse train to the first display electrodes and
10 the second display electrodes prior to the application of the rectangular voltage pulse train.

10. A driving method of an AC type plasma display panel in which first display electrodes and second display electrodes are arranged so as to form surface discharge gaps for rows of a matrix display and so that neighboring
15 two rows share one electrode for display, the method comprising the steps of:

arranging terminals for supplying electricity to the first and the second display electrodes at one side of a
20 display screen; and

generating a display discharge by applying a sustaining voltage pulse to the first display electrodes and the second display electrodes alternately.

11. A display device comprising an AC type plasma
25 display panel in which first display electrodes and second display electrodes are arranged so as to form surface discharge gaps for rows of a matrix display, and the position relationship between the first and the second display electrodes forming a surface discharge gap in the
30 row arrangement direction is opposite between neighboring

two rows, and terminals for supplying electricity to the first and the second display electrodes are divided into both sides of a display screen, wherein

plural electrode unit pairs are set about the first
5 display electrodes by making a unit of each of electrode arrays including the first display electrode neighboring only the second display electrode and the plural first display electrodes arranged without including a surface discharge gap and by dividing the first display electrodes
10 by two units,

plural electrode unit pairs are set about the second display electrodes by making a unit of each of electrode arrays including the second display electrode neighboring only the first display electrode and the plural second
15 display electrodes arranged without including a surface discharge gap and by dividing the second display electrodes by two units, and

a driving circuit is provided for generating a display discharge by changing potentials of the first and
20 the second display electrodes so that a potential change has a complementary relationship between the first display electrode units as well as between the second display electrode units of the electrode unit pair, and that a sustaining voltage is applied to the surface discharge gap
25 at the ratio of one row per k ($k \geq 2$) rows, and that the surface discharge gaps to which the sustaining voltage is applied are changed sequentially.

12. A display device comprising an AC type plasma display panel in which first display electrodes and second
30 display electrodes are arranged so as to form surface

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discharge gaps for rows of a matrix display, and the position relationship between the first and the second display electrodes forming a surface discharge gap in the row arrangement direction is opposite between neighboring two rows, and terminals for supplying electricity to the first and the second display electrodes are divided into both sides of a display screen, wherein

the first display electrodes are divided into k ($k \geq 2$) groups by making a unit of each of electrode arrays including the first display electrode neighboring only the second display electrode and the plural first display electrodes arranged without including a surface discharge gap and by dividing the first display electrodes in the arrangement order by one unit, and

a driving circuit is provided for generating a display discharge by applying a rectangular voltage pulse train having a constant period to the first display electrodes sequentially by one group while shifting the rectangular voltage pulse train by the time corresponding to a pulse width multiplied by $2/k$, and by applying another rectangular voltage pulse train similar to the rectangular voltage pulse train to the second display electrodes so that the shift between neighboring first display electrodes becomes the time corresponding to a pulse width multiplied by $1/k$.